



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,895	04/05/2004	Katsutoshi Kougo	Q80915	2640

23373 7590 09/09/2004

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

TESKIN, FRED M

ART UNIT	PAPER NUMBER
----------	--------------

1713

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/816,895

Applicant(s)

KOUGO, KATSUTOSHI

Examiner

Fred M Teskin

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5 and 6 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10/414,025.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 040504.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claims 1-6 are currently pending and under examination in this C-I-P of prior pending application no. 10/414,025.

The disclosure is objected to because of the following informalities: the genealogy statement inserted at the beginning of the specification should be updated to include the present status of the parent application.

Appropriate correction of the specification is required.

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 provides the limitation to "the valve" (see, final line). There is inadequate antecedent basis for this limitation in the claims, i.e., claims 6/5/1.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5 and 6 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 6476161 B1 to Harlin et al ("Harlin").

Harlin discloses a method of preparing (co)polymers of ethylene and propylene or other olefins using a slurry reactor and a gas phase, fluidized bed reactor, which may be arranged in series (col. 1, lines 12-20 and col. 5, lines 8-10). The method specifically includes the step of withdrawing from the slurry reactor a multi-phase stream comprising living polymerization product and liquid and/or gaseous reaction medium and directly feeding said stream, using at least one feed line, into the gas phase reactor below the fluid bed surface of a first fluidized bed zone of the gas phase reactor, in order to increase once-through conversion of the process (col. 4, lines 34-41).

The slurry reactor of Harlin is defined as any reactor "operating in bulk or slurry and in which the polymer is formed in particulate form" (col. 6, lines 25-26). It follows, therefore, that the multi-phase stream withdrawn from the slurry reactor necessarily contains, *inter alia*, living polymer in the form of *particles*.

The direct feeding step of Harlin is more specifically described by reference to feed lines **10**, **11** and **12** of Figs. 1 and 2. Thus, feed lines **10** and **11** are said to "protrude[s] substantially downward into the fluidized bed (**C**, **D**)," while feed line **12** is said to "protrude[s] substantially upwards *from the bottom of the gas phase reactor into the fluidized bed (C, D)* (*Id.*, lines 52-56, emphasis added). Figure 2 clearly shows feed lines **10**, **11** and **12** entering fluidized bed reactor **R2** at locations below the fluid bed surface **L**, with line **12** depicted as terminating *within* the fluidized bed (**D**) at a point just above the fluidization grid (**G**) - i.e., at the bottom of the lower fluidized bed. This would have indicated to skilled practitioners the concept of transferring the multi-phase stream into the interior of the lower fluidized bed of reactor **R2** at a point lower than half of the height from the bottom to the surface of the bed (**L**); e.g., from the bottom of the reactor into the interior of the fluidized bed. And insofar as the transferring via feed lines **10** and **11** occurs at an upper region of fluidized bed (**C**), such additional transferring is not precluded by applicants' claims in view of the open transitional language; i.e., claim 1 is readable on transferring polyolefin particles into other areas of the fluidized bed along with the stated transferring location.

Based on the above-discussed disclosure, there is a plausible basis for concluding that one would have immediately envisaged from Harlin the claimed process steps of (1) drawing out polyolefin particles from a polymerization reactor and (2) transferring the polyolefin particles into the interior of fluidized bed of a gas phase reactor of the next stage, and into lower than half (claim 1) or one-fifth (claim 3) of height from the bottom to the surface of the fluidized bed.

Alternatively, it would have been obvious to one of ordinary skill in the art to feed the multi-phase stream withdrawn from the slurry reactor of Harlin into the interior of the lower fluidized bed of gas phase reactor **R2** and into lower than half, or one-fifth, of height from the bottom to the surface of the fluidized bed in view of the direct feeding procedure illustrated in Fig. 2 thereof, as discussed above.

As to claims 5 and 6, Harlin exemplifies (Example 2) a pilot plant test wherein polymer slurry from a loop reactor was "fed intermittently" to a gas phase reactor (GPR) of the next stage (col. 9, lines 60-64). The action of opening and closing a valve, per claim 6, is a conventional expedient for effecting such intermittent feeding and is so well known in the polymer processing art as to admit of Official notice.

Claim 4 is objected to as being dependent on a rejected base claim but would be allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claim.

The following is a statement of reasons for the indication of allowable subject matter: The claimed embodiments employing at least two serially arranged gas phase polymerization reactors, per claim 4, is not disclosed nor fairly suggested in any prior art document(s) located or identified by the examiner as of the date of this Office action.

Any inquiry concerning this communication should be directed to Examiner F. M. Teskin whose telephone number is (571) 272-1116. The examiner can normally be


Art Unit: 1713

reached on Monday through Thursday from 7:00 AM - 4:30 PM, and can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FMTeskin/09-01-04



FRED TESKIN
PRIMARY EXAMINER
1713